

Figure 1. Dependency of amount of added peroxide on melting (○) and crystallization (□) temperatures of cured PCO.

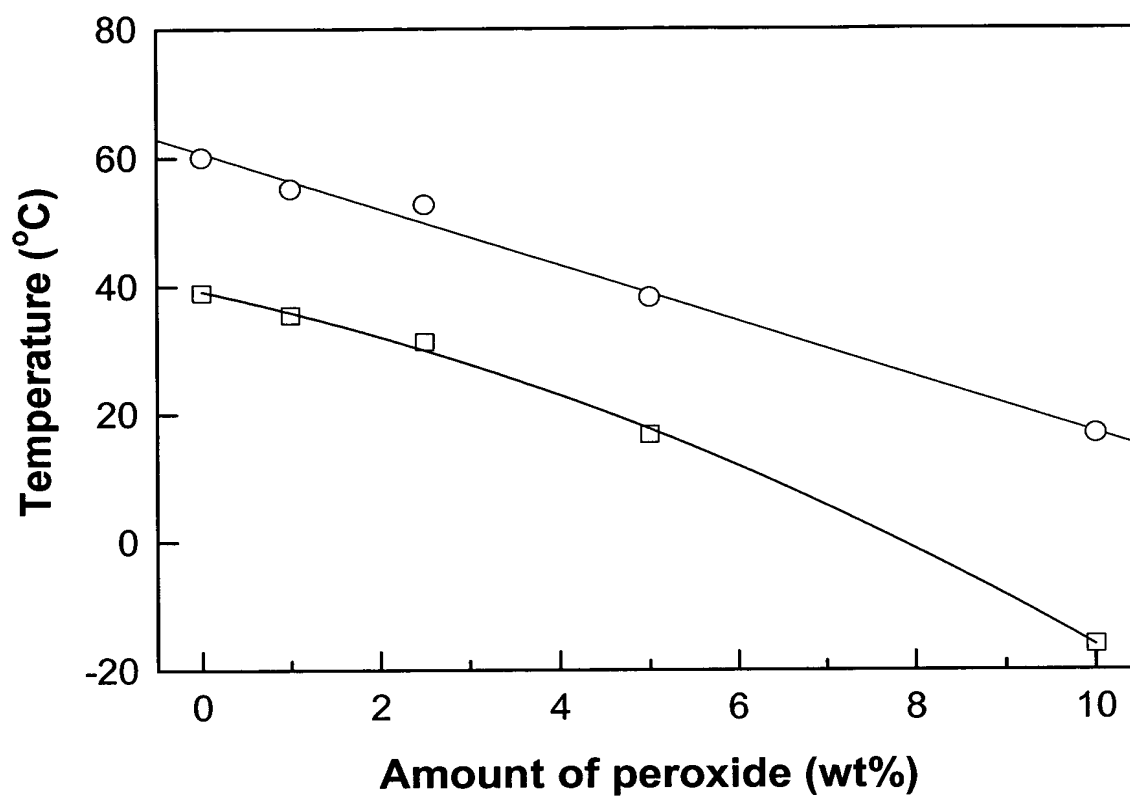


Figure 2. Tensile storage modulus (E') vs temperature for cured PCOs in a linear stress oscillation mode using 1 Hz of frequency and 4 °C/min of ramping rate: (i) DCP 0 %, (ii) DCP 1 %, (iii) DCP 2.5 %, (iv) DCP 5 %, and (v) DCP 10 %.

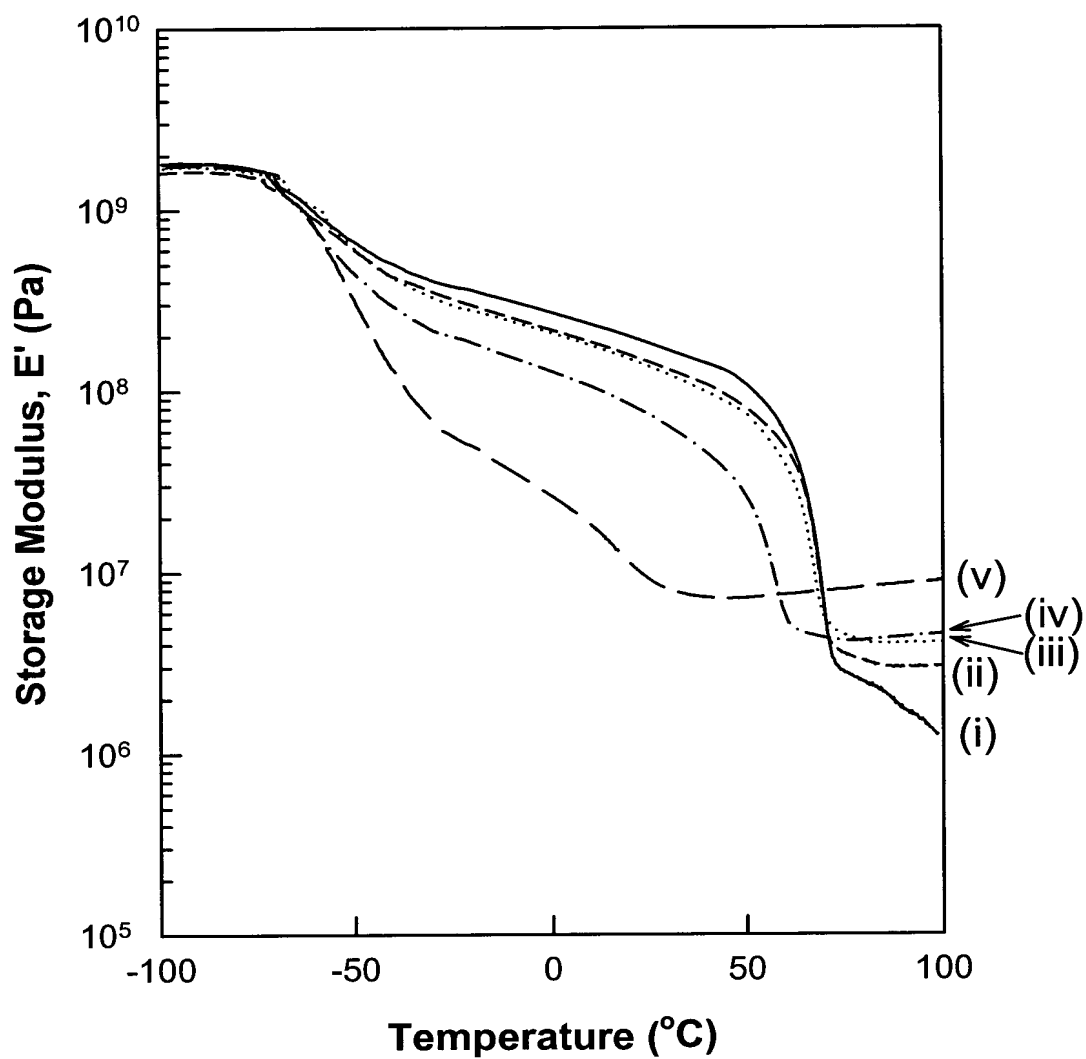


Figure 3. (a) Dependency of amount of added peroxide on T_1 (\circ) and T_2 (\triangle) which are the onset and the end temperatures of transition, respectively, determined from curves in Figure 4; (b) ΔT (\square) vs amount of added peroxide, where ΔT is the difference between T_1 and T_2 .

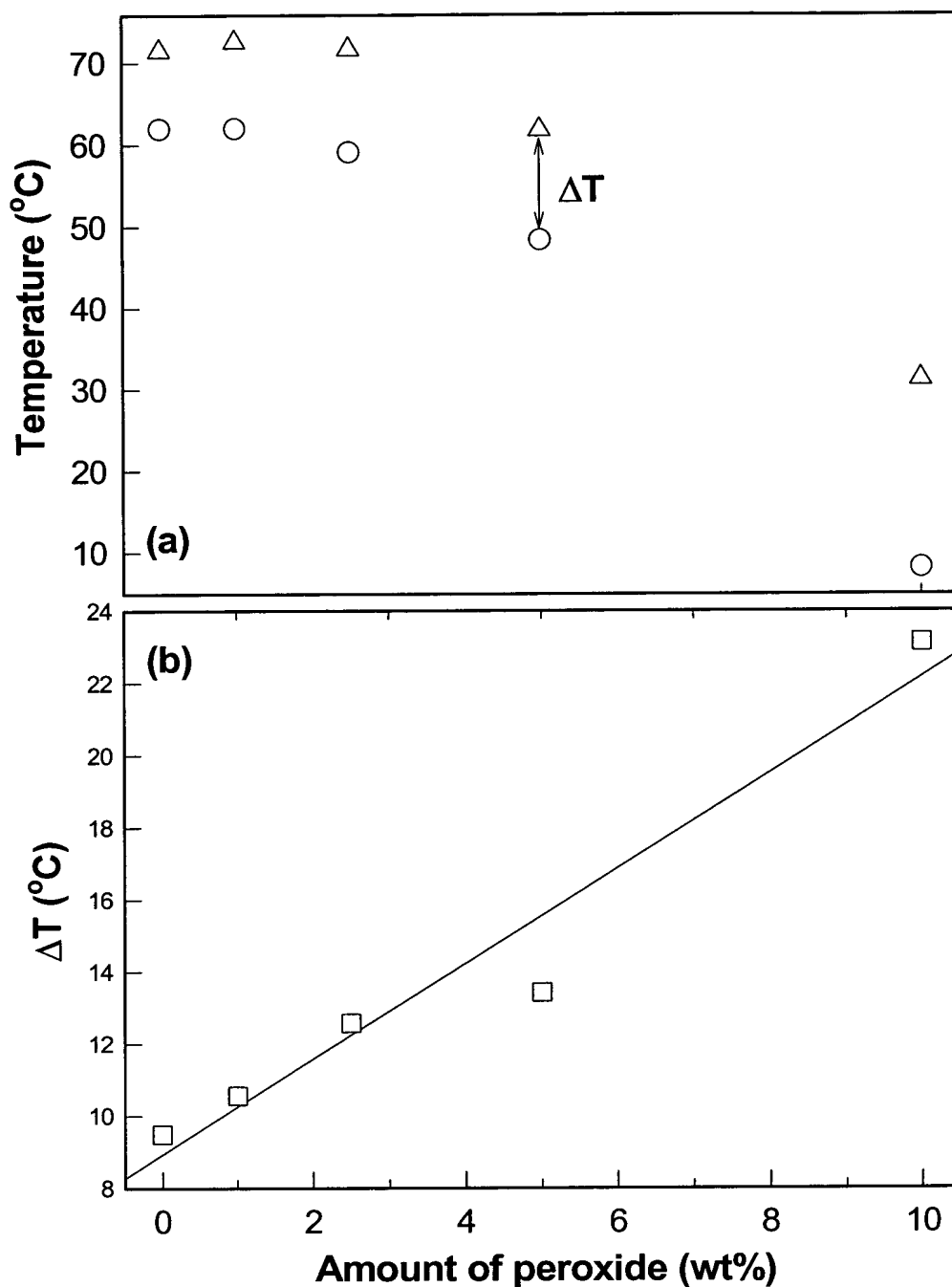


Figure 4. Shape memory behavior of PCO with DCP 2.5% following rapid immersion in water at $T = 70\text{ }^{\circ}\text{C}$. The sample undergoes the transition from temporary shape (circular) to permanent (linear) within 0.7 sec. The sample is colored in red.

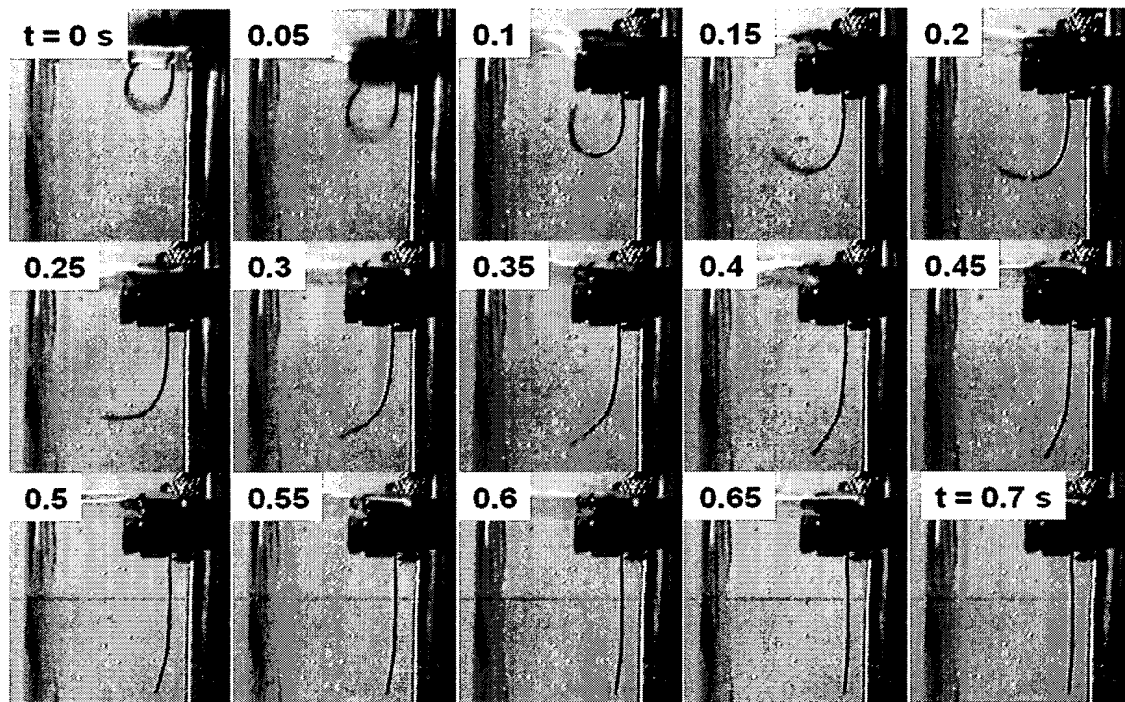


Figure 5. Curvature, κ , versus time elapsed at $T = 70\text{ }^{\circ}\text{C}$: (i) DCP 0 % (\circ), (ii) DCP 1 % (\triangle), (iii) DCP 2.5 % (\square), (iv) DCP 5 % (∇).

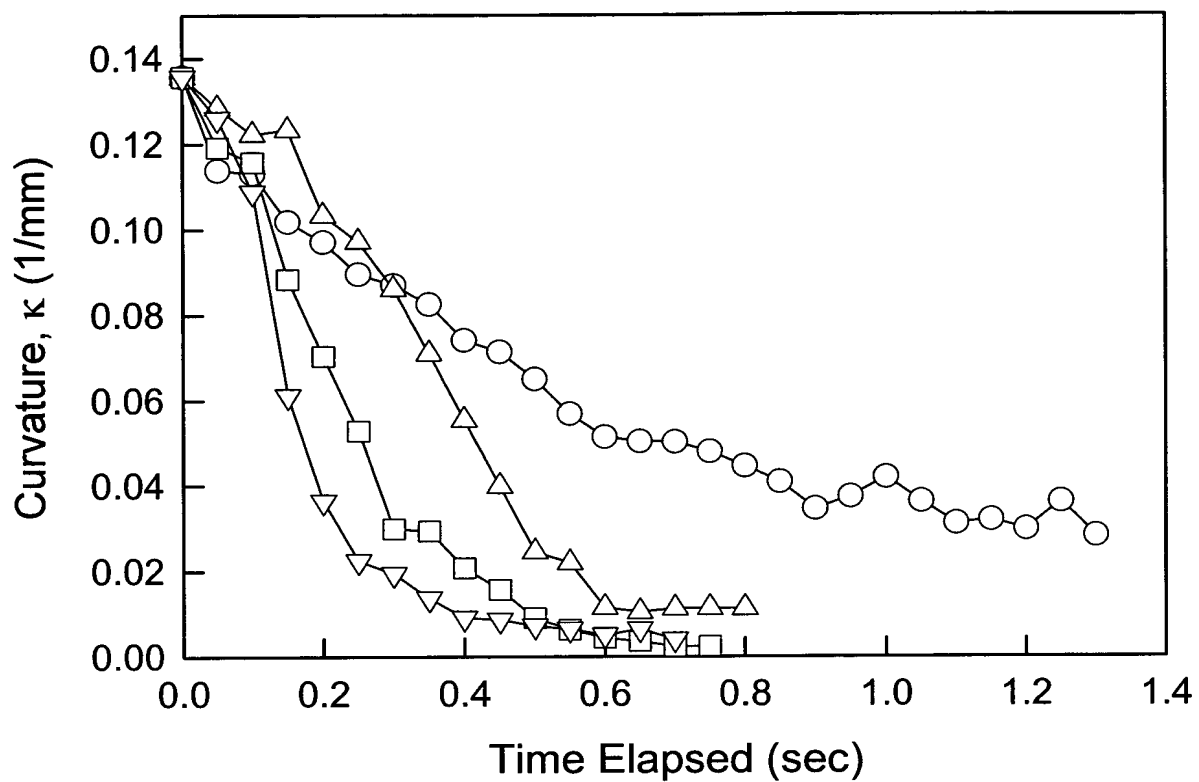


Figure 6. Tensile storage modulus (E') vs temperature for cured PCO:SBR blends in a linear stress oscillation mode using 1 Hz of frequency and 4 °C/min of ramping rate: (i) Solid line: SBR, (ii) Short dashes: PCO:SBR (40:60), (iii) Long dashes: PCO:SBR (60:40), (iv) Middle dashes: PCO:SBR (80:20). (All samples were melt mixed with 1% of DCP and crosslinked at 180 °C for 30 minutes)

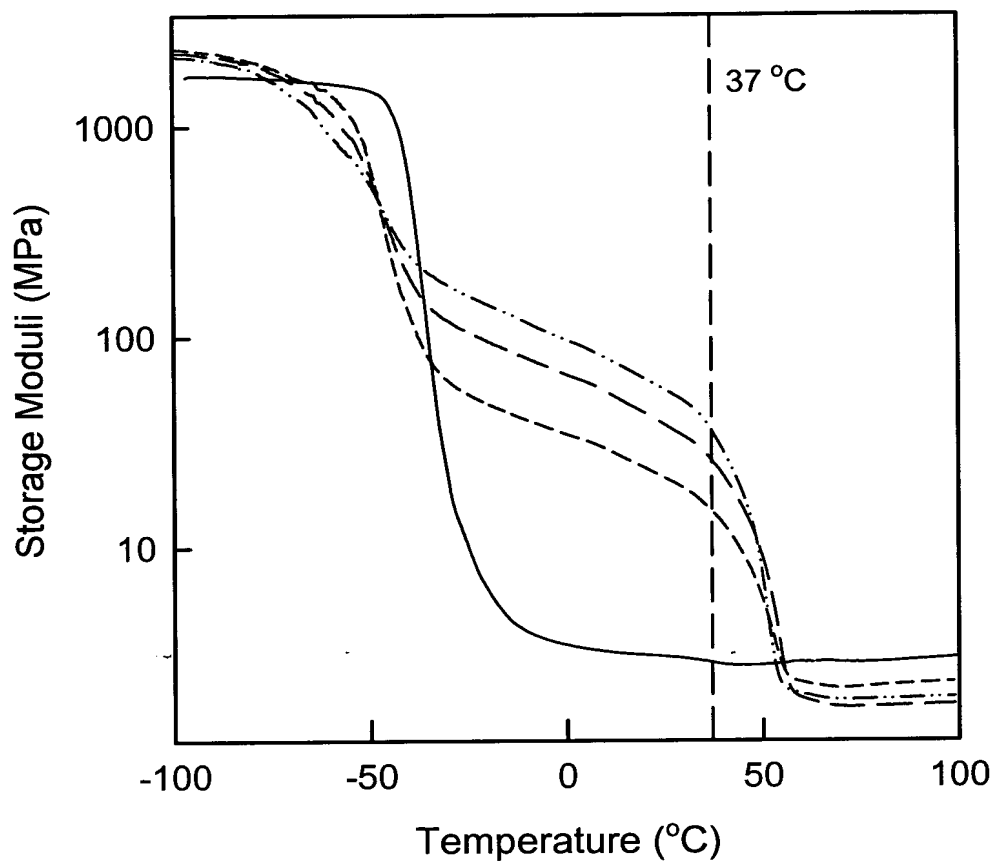


Figure 7. Dependence of tensile storage modulus on PCO wt-% in PCO:SBR blends prepared by melt blending and crosslinking with 1 wt-% PCO at $T = 180^\circ\text{C}$ for 30 min.

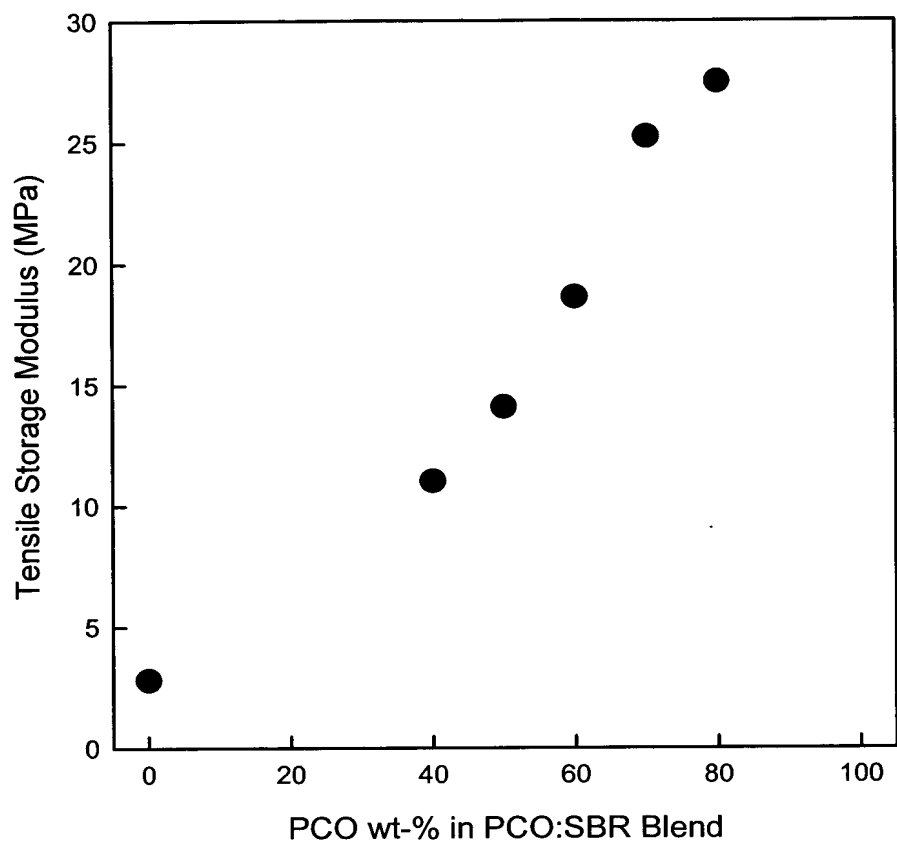


Figure 8. Tensile storage modulus (E') vs. temperature for cured PCO blends in a linear stress oscillation mode using 1 Hz of frequency and 4 °C/min of ramping rate: (i) Solid line: PCO-8012, (ii) Dashes with double dots: PCO-8012:SBR (75:25), (iii) Short Dashes: PCO-8012:EVA (60:40) (iv) Long Dashes: PCO-8012:PCO-6213 (50:50). (All samples were melt mixed with 1% of DCP and crosslinked at 180 °C for 30 minutes)

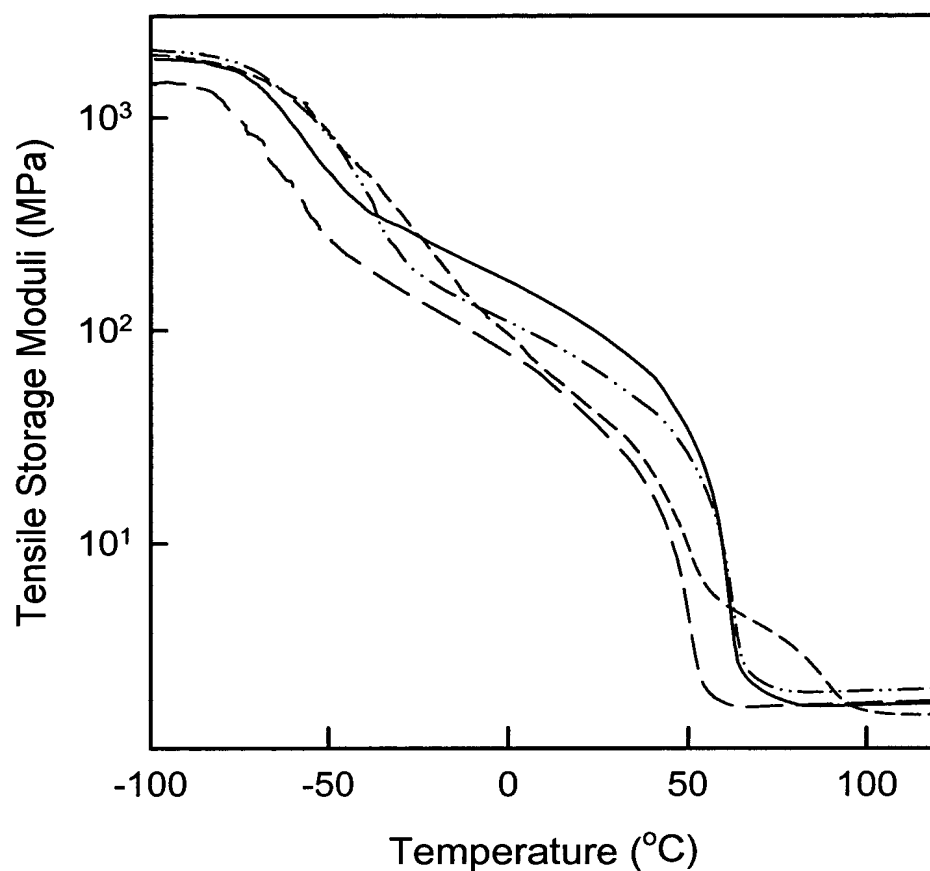


Figure 9. Augmentation of composite storage modulus at 37°C (open) and 60 °C (filled) with amount of filler added (an almost linear relationship was observed within the experimental range).

